Evolution of paretic shoulder kinematics after stroke: Comparison of scapular kinematics during sub-acute phase

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Introduction. Limitation of the range of motion of the shoulder is a secondary deficiency that has been previously described and related to shoulder pain in stroke patients. It may lead to a limitation of the functional use of the upper limb. The delay for such modifications is of importance to define the best rehabilitation strategies for the prevention.

Conclusion. Limitation of the range of motion of the shoulder is a secondary deficiency. The delay for such modifications is of importance to define the best rehabilitation strategies for the prevention.

References

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Comparison of two accelerometers in walking and non-walking individuals with stroke in medicine and rehabilitation service

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Objective. Accelerometry appears to be a reliable method for measuring physical activity in stroke walking patients [1]. However, the monitoring of activity in non-walking patient is not approached. We therefore propose to compare two accelerometers in a stroke population, walking and non-walking in hospital.

Patients. Forty-eight patients (14 walking 34 non-walking; 64.6 ± 19.3 years; Barthel Index: 45 ± 31.4 D) in medicine and rehabilitation service at Jean Rebeyrol hospital in Limoges.

Patient and methods. Each patient wore two accelerometers (Movilis, Srett. Worn on hip; SenseWear Armband, Bodymedia. worn on non-paretic arm) during two consecutive days from 9 am to 16 30 pm, corresponding to the time of classic rehabilitation. The information collected by the sensors, were, for Armband, energy expenditure (kcal) and the number of steps, and for the Movilis, energy expenditure (Kcal) and walking time (min).

Results. In the walking population, energy expenditure recorded by both sensors were significantly correlated (r = 0.673, P < 0.001). In contrast, for patients in wheelchairs, there was no correlation (r = 0.179, P = 0.246). Similarly, on walking patients, a correlation between the number of steps recorded by the Armband and the time of walk of Movilis (r = 0.787, P < 0.01) was observed. However, for patients in wheelchairs who walked in physiotherapy, no correlation was observed (r = -0.68, P = 0.66).

Discussion. In walking patients post-stroke, the results of the two accelerometers on energy expenditure and walking activity are well correlated. Nevertheless, the fact that we did not find any correlation in wheelchair-patients shows that accelerometers are perhaps not suitable for this population. This could be explained by the difference in the placement of the accelerometers.

Reference

Transcranial direct current stimulation improves function for stroke patients with pure motor neglect: A case report


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